RECTANGULAR COORDINATES: The location of a unique point represented as a "northing" (a distance north of an origin point of 0.0000) and an "easting" (a distance east of an origin point of 0.0000).

Rectangular coordinates are a pair of numbers written… NORTHING / EASTING.

Each set of rectangular coordinates represents the location of a unique point as if was plotted on a grid.

OBJECTIVE: To calculate the polar coordinates between two given rectangular points. This is known as the ***"INVERSE"*** procedure.

N1 / E1 — AZIMUTH ? and DISTANCE ? — N2 / E2.

PROCEDURE: Use ***"INV."*** menu…

1.)	N1 [SPC] E1 [N E]		enter northing and easting of point 1
2.)	N2 [SPC] E2 [N E]		enter northing and easting of point 2
3.)	[SWAP]		swap the coordinates on the stack
4.)	[–]		compute latitude and departure
5.)	[POL]		compute distance and azimuth (HR)
6.)	[HMS]		convert form of azimuth (HMS)

Repeat all steps for a new inverse.

To use already stored coordinates…

1.)	P1 [FETCH] [N E]		recall coordinates for point P1
2.)	P2 [FETCH] [N E]		recall coordinates for point P2

Continue inverse at step 3 above.

PRACTICE:

4,956.7500 / 7,899.0025	_____	6,565.3545 / 10,234.5044
2,300.9040 / 4,735.8765	_____	1,945.3434 / 7,234.0987
4,956.7500 / 7,899.0025	_____	1,945.3434 / 7,234.0987
5,000.0000 / 20,000.0000	_____	6,565.3545 / 10,234.5044

POLAR COORDINATES: The location of a unique point represented as a "bearing" or "azimuth" and a "distance" from a known set of rectangular coordinates.

Polar coordinates are used to determine the rectangular coordinates of said unique point from a given point.

OBJECTIVE: To calculate the rectangular coordinates of a unique point which is currently represented by polar coordinates from a given set of rectangular coordinates. This is known as the ***"TRAVERSE"*** procedure.

N1 / E1 — BEARING or AZIMUTH and DISTANCE — N2 ? / E2 ?.

PROCEDURE: Use ***"TRV."*** menu…

1.)	N [SPC] E [N E]	enter northing and easting
2.)	1 [STASH]	store coordinates (point #1 shown)
3.)	[N E]	reassemble coordinates
4.)	AZ [SPC] DIST [AZ D]	enter azimuth (HMS) and distance
5.)	[REC]	compute latitude and departure
6.)	[+]	compute new northing and easting
7.)	2 [STASH]	store new coordinates (point #2 shown)

Continue traverse at step 3 above.

To start traverse at already stored point…

1.)	P [FETCH] [N E]	recall coordinates for point P

Continue traverse at step 4 above

PRACTICE:

5,000.0000 / 10,000.0000	AZ= 85-25-05 D= 2397.65'	_____
2,525.7095 / 4,440.7622	AZ= 343-55-42 D= 4100.95'	_____
4,040.5550 / 8,800.4012	AZ= 189-50-30 D= 1977.34'	_____
5,050.0000 / 9,000.0700	AZ= 101-10-01 D= 999.67'	_____

Key

RECTANGULAR COORDINATES: The location of a unique point represented as a "northing" (a distance north of an origin point of 0.0000) and an "easting" (a distance east of an origin point of 0.0000).

Rectangular coordinates are a pair of numbers written… NORTHING / EASTING.

Each set of rectangular coordinates represents the location of a unique point as if was plotted on a grid.

OBJECTIVE: To calculate the polar coordinates between two given rectangular points. This is known as the ***"INVERSE"*** procedure.

N1 / E1 — AZIMUTH ? and DISTANCE ? — N2 / E2.

PROCEDURE: Use ***"INV."*** menu…

1.)	N1	SPC	E1	N E	enter northing and easting of point 1
2.)	N2	SPC	E2	N E	enter northing and easting of point 2
3.)	SWAP				swap the coordinates on the stack
4.)	–				compute latitude and departure
5.)	POL				compute distance and azimuth (HR)
6.)	HMS				convert form of azimuth (HMS)

Repeat all steps for a new inverse.

To use already stored coordinates…

1.)	P1	FETCH	N E	recall coordinates for point P1
2.)	P2	FETCH	N E	recall coordinates for point P2

Continue inverse at step 3 above.

PRACTICE:

4,956.7500 / 7,899.0025	***AZ = 55-26-33 D = 2,835.87'*** ***N 55-26-33 E***	6,565.3545 / 10,234.5044
2,300.9040 / 4,735.8765	***AZ = 98-06-01 D = 2,523.40'*** ***S 81-53-59 E***	1,945.3434 / 7,234.0987
4,956.7500 / 7,899.0025	***AZ = 192-27-03 D = 3,083.94'*** ***S 12-27-03 W***	1,945.3434 / 7,234.0987
5,000.0000 / 20,000.0000	***AZ = 279-06-24 D = 9,890.16'*** ***N 80-53-36 W***	6,565.3545 / 10,234.5044

Key

POLAR COORDINATES: The location of a unique point represented as a "bearing" or "azimuth" and a "distance" from a known set of rectangular coordinates.

Polar coordinates are used to determine the rectangular coordinates of said unique point from a given point.

OBJECTIVE: To calculate the rectangular coordinates of a unique point which is currently represented by polar coordinates from a given set of rectangular coordinates. This is known as the ***"TRAVERSE"*** procedure.

N1 / E1	BEARING or AZIMUTH and DISTANCE	N2 ? / E2 ?

PROCEDURE: Use ***"TRV."*** menu…

1.)	N [SPC] E [N E]	enter northing and easting
2.)	1 [STASH]	store coordinates (point #1 shown)
3.)	[N E]	reassemble coordinates
4.)	AZ [SPC] DIST [AZ D]	enter azimuth (HMS) and distance
5.)	[REC]	compute latitude and departure
6.)	[+]	compute new northing and easting
7.)	2 [STASH]	store new coordinates (point #2 shown)

Continue traverse at step 3 above.

To start traverse at already stored point…

1.)	P [FETCH] [N E]	recall coordinates for point P

Continue traverse at step 4 above

PRACTICE:

5,000.0000 / 10,000.0000	AZ= 85-25-05 D= 2397.65'	***5,191.5358*** / ***12,389.9874***
2,525.7095 / 4,440.7622	AZ= 343-55-42 D= 4100.95'	***6,466.3787*** / ***3,305.4572***
4,040.5550 / 8,800.4012	AZ= 189-50-30 D= 1977.34'	***2,092.3138*** / ***8,462.4223***
5,050.0000 / 9,000.0700	AZ= 101-10-01 D= 999.67'	***4,856.3955*** / ***9,980.8133***